1. Page 1, 2nd ¶. This model is designed to predict only the average tissue concentration. This assumption has lead to use of spatially-averaged input concentrations and parameterization of some variables with standard errors rather than standard deviations. This will produce distributions that do not necessarily reflect the full range of uncertainty in underlying data. Our expectation for a probabilistic model was that it would allow PRGs to be selected from a full distribution of concentrations, not just those constrained around the mean. The model needs to be re-configured to reflect more than just the mean.

2. Page 2, 1st ¶ and Bullet (1). It is unlikely most sample sizes given in this report are sufficient to allow invocation of the central limit theorem. Thus use of the standard error of the mean, in place of the standard deviation, may substantially underestimate parameter uncertainty. The standard error should not be used as a parameter.

3. Page 2, Bullet (2). Application of a normal distribution to a variable whose value cannot be less than or equal to zero means the model does not reflect physical reality. The normal distribution works in this model primarily because variability is expressed as the (smaller) standard error and not the (larger) standard deviation. This comment also applies to specific distributions listed in Section 6.

4. Page 2, Bullet (4). If data are sufficient to describe a range, but insufficient to define a distribution, use of a triangular distribution introduces information (the actual location of the central tendency) that is not otherwise available. The most parsimonious approach would be to use a uniform distribution, which would also be in line with not having the model focused on average outcomes. This comment also applies to specific distributions listed in Section 6.

5. Page 2, General. To the extent practicable, the fit between the full range of the empirical data (which should be provided) and the selected continuous distribution should be shown in graphic form, so it is easier to judge the quality of the fit. In addition, a goodness-of-fit statistic should also be provided for all fitted distributions. Use of empirical density functions (EDFs) should be considered in cases where sufficient data do not ascribe to a known distribution.

6. Page 2, General. A sensitivity analysis should be performed (using Crystal Ball) and the results provided with an eye toward not having distributions for every possible variable but only for those that contribute (for example, 1% or more to output variation). This would allow simplification of the model without unacceptable loss of insight into variability.

7. Page 4, Section 3. Chemical mixtures, with all their added complexity with respect to modeling and interpretation, are an unnecessary complication. Aroclor data should also not be used, as they may reflect the effects of environmental degradation. It will be easier to make remedial decisions with PRGs based on individual chemicals, particularly specific PCB congeners. In this regard, the three congeners (17, 170, 206) selected are neither co-planar, surrogates for co-planars (as in 118 for 126), and only one (170) is frequently encountered in fish from Portland Harbor (those that are include; 153, 180, 187 - Sethajinatanin data or 153/168, 129/138/160/163, 180/193, 187 - Round 1 data). It doesn't seem appropriate to base PRGs for protection of fish and fish consumers on congeners that are less likely to even appear in fish.

8. Page 4, Table 3-1. Mackay & Shiu (1999) "The Physical-Chemical Properties and Environmental Fate Handbook" is a more recent and comprehensive source of PCB KOW data than Hawker and Connell (1988).

9. Page 5, Table 3-3. If attention is focused on individual chemicals (e.g., 4,4'-DDT) and selected PCB congeners (e.g., 153, 180, 187, 118, etc.) there is no need for this table.

10. Page 14, Section 4.3. The sediment input data are reduced to a spatially-weighted average value, in line with the model's focus on predicting average tissue concentrations.
11. Page 25, Section 6.7. This is an instance where use of triangular distributions imparts information (how likely it is that a certain food item will be available, caught, and consumed) that is nearly impossible to actually know. Again, parsimony would indicate use of a range (uniform distribution), possibly truncated high or low if there is information regarding how little or how much of a food item is consumed.

12. Model spreadsheet, Row 6. The Henry's Law constant is described as "canceling out", yet there is no explanation of how this could occur. There is also no explanation for why a temperature-compensated Henry's Law constant is not used for the PCBs, as is the case in many other PCB-related models.

13. Model spreadsheet, Row 9. It is not clear that this is now just the filtered XAD water concentration.

14. Model spreadsheet, Row 10 and Rows 16-20. How the bioavailable concentration is calculated was changed from that in the August 2006 version; this change lowers the bioavailable concentration of total PCBs in the water column by 30% and hence would raise the back-calculated PRG accordingly. This change was made in response to a comment from U.S. EPA [*Page 18, Section 4.2.1.2, Environmental Parameters, Water Chemistry: Only total chemical concentrations were used in the model (sum of concentrations from the XAD filter and water column). In the absence of empirical data on dissolved and particulate concentrations, the model calculates these fractions. However, since empirical data does exist from the XAD analysis, these data should be used in model. The Arnot and Gobas model parameters are: chemical concentration in water (total) and chemical concentration in water (dissolved).*] We do not necessarily agree that this comment requires this change and thus believe that the discussion as to how to calculate the bioavailable fraction in water has yet to be satisfactorily concluded.

15. Model spreadsheet, Row 13. Why and for what reason did "Susie" eliminate this term?

16. Model spreadsheet, General. There appear to be electronic compatibility issues between the versions of Crystal Ball used to build this model and the versions available to U.S. EPA for its review. An attempt is being made to fund a version upgrade. Failing that, it may be necessary to manually reproduce the model in the older versions of Crystal Ball.